Remarks/Arguments

These remarks are in response to the Final Office Action dated May 6, 2005. This reply is timely filed. At the time of the Final Office Action, claims 1-23 were pending in the application. Claims 2, 9, 10, 14, 21 and 22 have been allowed. Claims 12, 13, 15, 16, 18-20 and 23 have been rejected under 35 U.S.C. §102(e). Claims 1, 3-8, 11 and 17 are rejected under 35 U.S.C. §103(a).

I. Brief Review of Applicants' Invention

Prior to addressing the Examiner's rejections on the art, a brief review of applicants' invention is appropriate. The invention relates to a method and a system for controlling a phase delay of an RF transmission line by coupling a fluidic dielectric to the RF transmission line. The system includes a fluid channel having a serpentine configuration. The fluid channel is configured such that a plurality of fluid channel segments respectively traverse the transmission line at a plurality of locations spaced apart along a length of the transmission line. A phase delay of the RF transmission line can be selectively controlled by adding and removing the fluidic dielectric to the fluid channel segments. Very precise control over the phase characteristics of the RF transmission line can be achieved with the foregoing arrangement. Specifically, the number of channel segments that are filled with fluidic dielectric can be can be selectively controlled to achieve the precise amount of phase adjustment that is required.

II. Objection to Claim 15

The Examiner has objected to claim 15 because the phrase "according to claim 12" was inadvertently omitted. The Examiner has also noted that the word "to" should be inserted after the word "line" to improve the grammatical form of claim 15. Claim 15 has now been amended to correct these deficiencies.

III. Claim Rejections Under 35 U.S.C. §102(e)

Claims 12, 13, 15, 16, 18-20 and 23 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,515,235 to Moller ("Moller"). The Examiner has acknowledged the limitation in Applicant's claims regarding a fluid channel with a serpentine configuration and a plurality of fluid channel segments that traverse the RF transmission line. However, the Examiner asserts that this limitation does not adequately distinguish Moller. According to the Examiner, the portion of the Moller channel that traverses the line can be considered to have segments. The Examiner notes that "the term 'segment' can be broadly read as a portion of a line between two points in the line." Consequently, the Examiner contends that the channel in Moller can be considered to have numerous segments that are arbitrarily designated based on one's perspective.

In response to the Examiner's rejection, claims 12 and 23 have now been amended. Specifically, claims 12 and 23 now recite "a plurality of fluid channel segments that respectively traverse said RF transmission line at a plurality of locations spaced apart along a length of said transmission line . . ." The amended language is intended to clarify the orientation and structure of the serpentine fluid channel relative to the transmission line. In particular, the serpentine channel as presently claimed traverses repeatedly beneath the RF transmission line at various spaced apart locations along the length of the RF transmission line. The additional limitations are believed to distinguish Moller. At best, Moller shows a serpentine configuration that traverses a transmission line at a single location along its length. Consequently, Moller fails to realize the significant advantages with regard to precision phase control that are possible with the present invention.

IV. Claim Rejections Under 35 U.S.C. §103(a)

Claims 1, 3-5, 7-8 and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Moller in view of Smith (both of record). The Examiner notes that Moller does not explicitly teach a fluid control system. However, the Examiner contends that it would have been obvious to include a fluidic computer control as taught by Smith.

In response, Applicants have now amended claims 1 and 11 to recite that the fluid channel comprises a plurality of fluid channel segments that respectively traverse said RF transmission line at a plurality of locations spaced apart along a length of said transmission line.

The amended language added to claims 1 and 11 is intended to clarify the orientation and structure of the serpentine fluid channel relative to the transmission line in Applicants' invention. In particular, claims 1 and 11 recite that the serpentine fluid channel traverses repeatedly beneath the RF transmission line at various spaced apart locations along the length of the RF transmission line. The additional limitations are believed to distinguish Moller. At best, Moller shows a serpentine configuration that traverses a transmission line at a single location along its length. Moller fails to show a serpentine configuration of a fluid channel that traverses repeatedly beneath the RF transmission line at spaced apart locations along the length of the RF transmission line. Smith also fails to teach or suggest this feature. Accordingly, amended claims 1 and 11 are believed to be patentable over the combination of Moller in view of Smith.

Claim 6 was rejected under §103(a) as being unpatentable over Moller and Smith in view of Benavides. Claim 17 was rejected under §103(a) as being unpatentable over Moller in view of Benavides. Claims 6 and 17 are believed to be allowable by virtue of their dependence upon an allowable base claim. Notably, Benavides fails to make up for the deficiencies of Moller or Smith. Benavides does not show a serpentine fluid channel that includes a plurality of fluid channel segments that respectively traverse beneath the RF transmission line at various spaced apart locations along the length of the RF transmission line. Accordingly, the rejection of claims 6 and 17 is also believed to have been overcome.

V. Conclusion

Applicants have made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. Nevertheless, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of

the foregoing remarks, Applicants respectfully requests reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

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Date

Robert J. Sacco
Registration No. 35,667
SACCO & ASSOCIATES, P.A.
P.O. Box 30999
Palm Beach Gardens, FL 33420-0999
Tel: 561-626-2222